**Review**

1. Express the following sum (in grams) with the correct number of significant figures:
   1. kg + 1531 g + 2.54 x 104 mg
2. What is the result of 1.58 x 3.7937
3. 4560.00 is properly expressed in scientific notation as:
4. Which of the following has three significant figures
5. 305.0 cm
6. 0.0500 mm
7. 1.00081 kg
8. 8.060 x 1011 m2
9. A rectangle is 3.25 m long and 1.5 m wide. What is its area? (with correct significant figures and units)
10. 0.0001993 can also be expressed as
11. 1.993 x 10-4
12. 19.93 x 105
13. 1993 x 107
14. 199.3 x 102
15. Convert 1.2 x 10-3 to decimal notation.
16. Select the smallest value
17. 15 x 10-3
18. 0.15 x 100
19. 0.0001 x 103
20. 0.00000015 x 106
21. The length and width of a rectangle are 112.5cm and 0.606m, respectively. What is the area of the rectangle in m2 and the correct significant figures?
22. The number of significant figures in 0.40 is?
23. The length and width of a rectangle are 1.125m and 0.606m. You calculate the rectangle’s perimeter by adding these and multiplying by two. To the correct number of significant figures, the perimeter should be written as?
24. A useful method of expressing very small or very large numbers is
25. Scientific notation
26. Arabic numerals
27. The metric system
28. Roman numerals
29. Four students measure the mass of an object, each using a different scale. They record their results as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Student | A | B | C | D |
| Mass (g) | 49.06 | 49 | 50 | 49.2 |

Which student used the least precise scale:

1. A
2. B
3. C
4. D
5. What is the result of (0.0410 + 0.021) x (2.20 x 103)?
6. The mass of an electron is 9.1 x 10-31 kg. How many electrons will make a mass of 1.0 kg?
7. The radius of the Earth is 3963 mi. What is the surface area of the Earth in square meters?

( 1 mi = 1609m)(area of a sphere = 4πr2)

1. A rectangular garden measures 15 m long and 13.7m wide. What is the length of a diagonal from one corner of the garden to the other?
2. A hot air balloon rises to an altitude of 600 fathoms. What is this height in feet? (1 fathom = 6 ft)
3. An average human has a heart rate of 70 beats per minute. If someone’s heart beats at that average rate

over a 70 year lifetime, how many times would it beat?

1. If 1 in = 2.54 cm, and 1 yd = 36 in, how many meters are in 7.00 yd?
2. The last page of a book is numbered 764. The book is 3.00 cm thick. What is the average thickness of a sheet of paper in the book, in cm?
3. Concrete is sold by the cubic yard. What is the mass, in kg, of on cubic yard of concrete that is five times the density of water? (1m = 1.094 yd, and the density of water is 1000kg/m3)
4. The metric prefix for

Thousand \_\_\_\_\_\_\_\_\_\_\_\_\_

Hundred \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Ten \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tenth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hundredth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Thousandth \_\_\_\_\_\_\_\_\_\_\_\_\_\_

The data below was collected for a cars position over its first 4 seconds of travel

|  |  |
| --- | --- |
| **Time (sec)** | **Position (m)** |
| 0 | 0 |
| 1 | 1 |
| 2 | 4 |
| 3 | 9 |
| 4 | 16 |

23) Analyze this data graphically. Include a graph (labeled correctly) and appropriate regression equation.

24) Describe the relationship between the position and time.

25) What position would you expect the car to be at after 8 seconds?

26) At what time would you expect the car to have traveled at 25 m?